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Relative values and complementarity of online and offline interactions in consumer buying behaviour: a proposed research plan to study purchasing of a consumer service product bundle

Abstract

Current research into online consumer behaviour seems to be limited in two respects, firstly it treats online interaction as a stand-alone phenomenon and secondly it focuses on discrete steps in consumer processes, neglecting links between the steps. This paper proposes a research method to investigate relative values and complementarity between online and offline interactions in a consumer's buying process, examining differences within and between steps. A range of information source types and functional resource options will be researched for both effectiveness and efficiency benefits as well as emotional preferences for both online and offline interactions.

The research will focus on online and offline steps in (a) information gathering, (b) evaluation and decision making and (c) eventual purchase of the components required for an unfamiliar long haul recreational travel experience. The antecedent step of destination selection and post purchase service consumption and behaviour will be excluded owing to subjective factors that could interfere with the findings of the 3 steps selected for investigation. The research will be based on consumer buying process models for high involvement and low involvement as well as transformational and informational recreational travel products, applied to limited elements of a service bundle required for a recreational travel experience.

One of the research's key outcomes will be an understanding of the internet's relative ability to satisfy consumer needs in coordinating a range of components using self service relative to the satisfaction derived from an offline service provider. In effect this will function as a test of the relative value derived online and offline for both transformational (greater complexity of attributes and experientially based value) and informational (greater levels of standardisation and rationality in valuation) service product components within and between different stages of the consumer's buying processes.

A recommendation will be offered for research methodology and analysis to deal with the issues involved in this proposed study.

Keywords

Relative, Values, Complementarity, Online, Offline, Interactions, Consumer, Buying, Behaviour, proposed, research, plan, study, purchasing, consumer, service, product, bundle

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**RELATIVE VALUES AND COMPLEMENTARITY OF
ONLINE AND OFFLINE INTERACTIONS IN
CONSUMER BUYING BEHAVIOUR: A PROPOSED
RESEARCH PLAN TO STUDY PURCHASING OF A
CONSUMER SERVICE PRODUCT BUNDLE**

A paper submitted for presentation at the European Institute
for Retail and Social Services Conference, Orlando, July 2005

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1. Abstract

Current research into online consumer behaviour seems to be limited in two respects, firstly it treats online interaction as a stand-alone phenomenon and secondly it focuses on discrete steps in consumer processes, neglecting links between the steps. This paper proposes a research method to investigate relative values and complementarity between online and offline interactions in a consumer's buying process, examining differences within and between steps. A range of information source types and functional resource options will be researched for both effectiveness and efficiency benefits as well as emotional preferences for both online and offline interactions.

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A recommendation will be offered for research methodology and analysis to deal with the issues involved in this proposed study.

2. Introduction

Contracting services is typically a process that relies on an exchange of information between the contractor or service provider and the customer. The commercialisation of the internet claimed this as a major potential application of the new means of interaction based on a range of capabilities inherent in digital interaction between computing devices (Kelly, 1997). While the initial adoption of the internet seems to have happened a lot faster than most if not all other communications devices (Straus and Frost 1999, p 50) the availability of the internet in homes has not been mirrored by use of the full range of capabilities that it offers. Studies on use of applications offered by the internet consistently show that the information gathering stage of Lavidge and Steiner's (1961) Hierarchy of Effects is the most common consumer behaviour online with purchase of products and services being the least common (Mohammed et al 2002, p 392). What is not clear is the role or potential of the "killer application" (Mohammed et al 2002, p 392) email, the single most commonly adopted application, in consumer decision making.

Information needs of purchasers of services are amongst the highest based on the intangibility and higher risks associated with a purchase (Bateson and Hoffman 1999, p 18) where consumption coincides with production. Information needs and consumer behaviour also vary based on two different dimensions as expressed in the grid developed by Rossiter and Percy (1998, p 264) which cross matches a person's motivation for purchase with levels of involvement for different purchases. A popular theory of motivation is that people will take action for one of two purposes, to gain pleasure or to avoid pain, or in service purchase motivation, whether a service is purchased to solve a problem or indulge an hedonic desire. This has been extensively studied in terms of consumer behaviour with academicians such as Rossiter and Bellman (2005 p 152) referring to products in the different groups as either transformational (hedonic) or informational (problem solving).

Key differences in consumer behaviour for these different types of product are information needs with a range of sources with differing effects in areas such as credibility, quality of various dimensions, quantity and ease of access for information. Of particular importance with services is the need for interactive sources of information that will allow a consumer to

explore various options and/or to engage in an exchange of information to build a qualitative understanding of the nature of a service experience (Murray 1991).

Typically when investigating consumer behaviour, qualitative research is useful to understand customer feelings that underlie decisions and choices as a precursor to quantitative evaluation of factors identified in decisions and choices (Malhotra et al, 2002, P 127). At the same time, a large amount of internet consumer behaviour research uses experimental research because of the ease of establishing a controlled environment to investigate consumer responses to varying stimuli. Other research techniques that may be of interest and are considered are longitudinal research to track the behaviour of people through an actual purchase process given the extended time required for processes and interactions in such a decision. An alternative, or perhaps complementary methodology, to this may be information acceleration (Urban et al 1997) applied to a choice modelling experiment.

A practical application of this research should be a greater understanding of the roles of online and offline resources at different stages of a consumer's decision making process. This will enable organisations to tailor their information support for consumers based on an understanding of established preferences at different stages of their buying process.

Further research in this area could facilitate an understanding of the potential for disintermediation and possible needs for reintermediation in services based on an appreciation of the relative value derived from online and offline interaction and resources by consumers. The review of different service bundles of both informational and transformational nature could also start to generate understanding of consumer treatment of such complementary products. This could help organisations in establishing virtual alliances in online communities with an ability to help consumers achieve more fulfilling experiences in taste based products like travel experiences.

3. Research question and hypotheses

The central hypothesis of this research is that the consumers will show a preference to use the internet as a resource dependent on personal characteristics and product experience and that this preference will differ for individuals based on type of product and the stage of buying process for an individual.

The primary hypotheses relate to personal factors as having the greatest level of predictive value in anticipating preference or primacy for mode of interaction at each stage of the decision making process. We will need to do this for an hedonic as well as a problem solving type product to get an understanding of the relativity of consumer behaviour in each of the two different types of service. It seems *prima facie* impractical to try and research a complete bundle of hedonic and problem solving products that may be required for a consumer to achieve complete fulfillment of their travel experience. Such a complete bundle could comprise multiple transport, accommodation, entertainment and sightseeing options which would introduce an impractical level of complexity. We will therefore select a themed resort type property or an experiential property which will function as the hedonic service and either an airline ticket or car hire to function as the problem solving type service. The primary, or main effects to be studied are the relative choices (non-discrete) of consumers to use online or offline resources at each of the 3 stages of the buying process identified for study.

a. Independent variables

Key factors for measurement as independent variables are proposed as firstly intrinsic personal characteristics and secondly respondent reports of experience using online and offline resources. The personal characteristics selected relate to internet resource utilisation and personal information needs with measures of (a) attitudes to technology (Davis, 1989), (b) level of comfort with technology (Davis, 1989), (c) recency and frequency of comparable service use (Murray 1991), (d) relative need for cognitive closure (Mayseless and Kruglanski 1987), (e) capability or experience in use of online search function (Grant 2004a) and (f) preference for control or self service in sourcing information and/or effecting transactions (Reedy and Schullo 2004, p 322). Note that this departs from the more common use of demographics as a determinant of behaviour as per the study by Luo, Feng and Cai (2004). This will require a level of homogeneity in the sampling methodology to minimise variance in demographic factors such as age and education as a source of error. Independent variables that reflect user experience rather than intrinsic personal characteristics are proposed as respondent's reporting of efficiency (convenience) and effectiveness (functionality) of a range of online and offline resources at each stage of the buying process being studied.

b. Dependent variables

The dependent variables differ between the first two stages of the buying process and the actual function of effecting a reservation. For the information sourcing and processing stages we wish to establish firstly relative preferences for online or offline resources and then, for each of these a rating or order effect for commercial, independent and personal or private sources (Kotler et al, 2004 p267) in turn. As pointed out by Ratchford, Lee and Talukdar (2003) all of these resources are found both online and offline and will vary in relative levels of importance. An issue that the research will have to address is the separation of these two phases in the minds of respondents as they are likely to be closely linked. The research design will however have to separate out the information sourcing and use of information in decision making in discrete steps for respondents to get clarity on the differences of the functions. The dependent variables in the stage of effecting a reservation will have as a primary focus the relative preferences for interacting with online and offline service providers. The second order effects in this area for both online and offline interactions would apply to preferences of dealing direct with principals or dealing with appointed agents or other types of intermediaries.

The research design will require a standardisation of stimulus or input for respondents to give validity to their responses as data for analysis. One of the key research design questions that has to be addressed is whether to use a survey instrument or whether to use an experimental technique as so many of the current researchers into internet marketing issues appear to do. This question is compounded by the need to get data over what would be a typically extended process. To seek some answers in this area we will review some of the more recent research in the area to derive and understanding of the relative strengths and weaknesses of various approaches.

4. Current research practices

No research has been identified that covers the scope of what is proposed in this research study. We therefore review the research that has been done in the general area in the discrete areas in which it has been done namely (a) consumer needs for information in the buying process, (b) consumer uses of information in decision making and (c) choice of medium for effecting reservations. Each of these groups in turn is divided into online and offline studies as they tend to be discrete in nature as mentioned earlier in this paper.

a. Consumer needs for buying in the information process

Consumers require information or other stimuli as a precursor to further consumer behaviour such as consideration of options or effecting a purchase of a product or service. In the event of purchasing an unfamiliar product or service there will be an active search from both commercial and social environments (Howard and Sheth 1969 p 26) and these may be affected by direct experiences with similar products in the past. The research will therefore have to use a product as its focus that is not familiar to its respondents to minimise the use of the internal sources identified by Murray (1991), this will require screening of respondents based on the destination selected for the experimental variable. This should result in what Howard and Sheth characterise as extensive problem solving behaviour by deliberate intent in the design of the proposed research.

i. Research into offline practices

The primary sources of information for a consumer seeking options for satisfaction of a felt need are detailed by Kotler et al (2004 p 267) as personal, commercial and public. They also include the option of experience or handling of the product that this study will not take into account as part of its primary focus on external sources. The potential for telepresence (Klein 2003) has been documented and it is suggested that this has the potential to provide online experience previews that may make this an online possibility without equivalent in the offline environment. Note however that this requires media richness which few consumers have access to online and may be a factor in the future but is impractical for current research.

In the scenario that this study will deal with, commercial sources would include principals as well as commercial or retail agents, personal sources would include friends or acquaintances with direct experience of the product under consideration and public sources would include specialised travel guides or general consumer media such newspapers, magazines and broadcast media which offer editorial coverage of travel experiences.

It is tempting to discount the option of personal sources to increase the focus on channels that travel service providers can better influence and/or control. The emergence, however, of online communities and forums require that the point be

addressed in the offline environment for comparative purposes. Since it is possible that this is a major new source in the online environment derived from the ability of the internet to connect people with similar interests in different places it will have to be addressed in the offline environment for comparison with the online environment. It is further important to note the importance of personal sources (Murray 1991) in the processes of consumers making decisions about services owing to their intangibility and impracticality of trial prior to purchase. Murray's experiment is perhaps the best example of offline research methodology to investigate consumer source choices for information as part of an intention to make a purchase.

The other major research done on tourist information search strategies was that done by Fodness and Murray (1998) which used a survey to research travellers at a destination. The useful aspects of their research are that they are perhaps the first researchers to research the selection and combination of information sources used by travellers. The key focus of their research discovery was 3 distinct dimensions of consumer search strategy being spatial, temporal and operational searches. The study under consideration is aimed at the operational dimension and will cover both online and offline resources as well as the progression beyond information collection as part of the decision making process. Fodness and Murray in contrast only researched offline information sources and limited their survey to information sourcing.

ii. Research into online practices

Perhaps the best studies of online information search have been done by Peterson and Merino (2003) and Ratchford, Lee and Talukdar (2003) although the excellent propositions developed by the former (Peterson and Merino) are based wholly on applied theory than primary research. Their very insightful propositions, which use the application of logic to well established theory to debunk much of the hype that surrounded internet commerce prior to 2000, clearly require empirical validation and are by nature very generalised in character. The methodology used by Ratchford, Lee and Talukdar (2003) relied on comparison of a replication study of a 1990 study into car buyers' information uses with online information sources included as a variable. They used a self report survey of respondent behaviour in car purchasing which was very good but has as a major limitation the inclusion of the "the internet" as a single

source without investigating different online source types. It is also not possible to estimate any changes in consumer behaviour over the 10 years between the two studies which may affect the validity of the online vs offline comparison.

b. Consumer uses of information in decision making

Ajzen and Fishbein's Theory of Reasoned Action outlined in their book *Understanding Attitudes and Predicting Social Behaviour* (1980) is perhaps the seminal work in this area, dealing with the relative importance of three critical dimensions involved in peoples' decision making. Their research suggested that to understand consumer choices one had to uncover the attitudes relating to different choices, the social norms applying to behaviour and beliefs about behavioural control. A search of an academic library database using a variety of keyword combinations such as "information sources" and "media choices" in combination with "Theory of Reasoned Action" returned only a single relevant source for consumer behaviour. Natarajan's (1993) study deals with an intangible product but one which is far more utilitarian or informational than the study proposed in this paper. It is also confined to offline interactions. Indeed the most useful and relevant work in this area seems to have been done in the area of offline consumer behaviour.

i. Research into offline practices

One article that was returned from the database searches that could be seen as more relevant was Gaither et al's (1997) study on physicians' behaviour in information sources for drugs that they may wish to consider prescribing. This used a survey methodology to review professional behaviour relating to a highly informational product, typically not for self consumption. This is in fact a Business-to-Business type of interaction and it is interesting to note the modifications proposed for Ajzen and Fishbein's (1980) Theory of Reasoned Action address a key point in Business to Business buyer behaviour, with information on harmful effects of drugs being an important factor for physician's choices.

Much of the tourism specific work published in this area relates to choices of destinations rather than service providers within a destination choice. Reviews such as that done by Goosens (2000) and Grant (2004b) however can be directly translated to the Theory of Reasoned Action (Ajzen and Fishbein 1980) and the effects of

motivation relating to different product types in attitudes to information sources (Murray 1991 and Percy, Rossiter and Elliot 2001 pg 145). Of greater interest in regard to methodology is the work by Seddighi and Theocharous (2002) which investigates discrete consumer choices of destination using a conditional logit analysis. The use of this methodology suggests superior ability to predict behaviour based on consumer perceptions of attributes and characteristics.

Further evidence of the importance of consumer motivation in product purchases is given by the work of Garbarino and Johnson (2001) showing the link between consumer motivations and ultimate satisfaction in the use of products. This is extended by the work of Adaval (2001) which shows the link between a person's mood state and their willingness to accept information provided at a particular time, suggesting that setting of media use may be an important variable. Adaval (2001) used a series of experiments to demonstrate the effects of mood states on choices of information by consumers across a wide range of different product types and settings.

ii. Research into online practices

Reedy and Schullo (2004, pg 322) describe the important utility that some consumers derive from the self service nature of the internet when gathering information. The study done by Kidwell and Jewell (2003) clearly links this to the attitude component of the Theory of Reasoned Action (Ajzen and Fishbein 1980) and this is an important consideration that will have to be taken into account in the proposed research.

A key issue online however is understanding users' experiences with using technology and Brown and Sellen (2001) highlight issues of relevance to the proposed research in the areas of the problems associated with combining information across websites compounded by concerns relating to security and privacy. This exploratory study is confirmed by the work done by Lee and Lee (2004) which gives some real substance to the cautionary propositions developed by Peterson and Merino (2003) relating to the limitations of internet use. The study by Lee and Lee used an experimental design to test the different effects of choice set size and attribute numbers for consideration, applying ANOVA to the reported reactions of consumers to the various scenarios to which they were exposed. The key limitation of this research is the failure to account

for the relative importance or meaning of attributes to which consumers were exposed as well as perceptions of the relative quality of information sources.

c. Choice of medium for effecting reservations

The predominant literature in offline markets for this area probably relates to the choices that people make for various types of retail options that are available to them. In contrast the focus on this area online has been simply massive, perhaps in an effort to understand why the widespread adoption of online resources for information does not directly translate to online purchasing.

i. Offline practices

A useful basis for understanding of consumer choices in offline markets is the classification scheme suggested by Kotler et al (2004 pp 574-581) which groups retail establishments by (a) levels of service provided, (b) range of merchandise offered, (c) level of price emphasis and (d) location of retailer. The classification relating to ownership of retailers has not been included here as it does not relate directly to variances in consumer need. The remaining characteristics however can all be easily related to differences in consumer needs such as price, advice, relative levels of purchase importance and convenience of location and access. In an offline environment the logical characteristics for a purchase such as that in the proposed research the most likely characteristics of interest will relate to service given the novelty of the required service, price given the informational nature of parts of the service bundle and range given the assumed importance of a major investment in personal indulgence. A more rigorous methodology is found in the neural networks approach used by West, Brockett and Golden (1997) to understand consumer choices in retail service providers.

ii. Online practices

Many of the studies in this area use demographics as their prime focus for explaining choices of online or offline methods. Bhatnagar and Ghose (2004) for example used multinomial logit and perception mapping with data collected in an online survey to identify the attributes of a diverse range of products that were likely to make them suitable or otherwise for online trading. The data that they gathered showed no significant effects of choice to purchase online based on demographic differences and

indeed found a very large proportion of respondents who were not happy purchasing products or services online at all. The predominant reason for this seems to be fears of security in the areas of both privacy and the perceived potential for online fraud. It is possible that this finding of non significance of demographics reflects the sampling methodology which required respondents to be online in contrast to other surveys such as that by Swinyard and Smith (2003) which used a mail survey to gather their data which showed a more familiar pattern of higher income, younger and better educated consumers tending toward purchase.

A greater body of work, and perhaps more relevant, is the work which has been done on consumer motivation and technology orientation as predictors of a consumer's potential purchase goods or services online. The Technology Acceptance Model (TAM) is a popular concept in this area (Vijayasathy 2004, Keen et al 2004) with its focus on behavioural aspects relating to technology, in particular the perceived usefulness of technology and usage intentions as defined by Davis (1989). Keen et al used a mall intercept survey to facilitate data collection based on responses to scenarios of catalogue and online shopping relating to two products commonly purchased online, computers and music CDs. Their analysis was based on the Theories of Planned Behaviour (Ajzen 1988 and 1991) and Reasoned Action (Fishbein and Ajzen 1975) and the use of these theories in formulating the TAM. In doing so they very effectively identify the factors that will lead a growing number of people to effect purchases online. Their findings of a lack of enthusiasm, given the bias of the sample to a younger population (typically enthusiastic adopters in other studies) dealing with low attribute complexity, standardised products which fit with Peterson, Balasubramanian and Bronnenberg's (1997) typology of search characteristics, is highly surprising.

Methodologically, the extension of the TAM by Venkatesh and Davis (2000) used longitudinal field studies with four panels in defined situations to gain access to situations in which people were using technology. Note however that the research related to people's use of technology in organisational settings and focussed on the introduction of new operating systems and the like rather than use of the internet for personal purposes. The results seem to be highly transferable however to personal applications as shown by Keen et al (2004) and provide high levels of predictability in

human behaviour. Of particular interest is the longitudinal nature of the research, allowing data capture over time and therefore presumably at different stages of a buying decision process, and the placement of panels in non-laboratory situations.

A variation on the personal characteristics was offered by Goldsmith (2002) with an alternative focus on self assessment by respondents on factors of "Internet Innovativeness," Global Innovativeness" and "Internet Involvement" based on factor analysis. Three surveys were administered over 15 weeks to gather firstly, demographic data followed by Internet Innovativeness in the 2nd survey and Internet related buying in the 3rd survey. Of greatest interest was the significance of Internet Innovativeness in predicting expected purchase activity online over the course of the next year. This variable does not appear in the TAM but may be a significant part of "perceived control" in the Theory of Planned Behaviour.

The other major consideration in purchasing options for online and offline sources for the products in question is the nature of the entity that they may choose to interact with in effecting a reservation. This is an area which is rapidly developing with the ability of major service provider databases such as airline Global Distribution Systems like Sabre and Galileo to be interfaced to consumer through online intermediaries as explained by Buhalis and Licata (2002). Consumer choices offline are typically limited to

- a) retailers who provide a consolidation or one stop shop function and a direct physical interaction,
- b) wholesalers who may sell direct to end users and offer benefits of either brand values or specialisation with interaction typically by phone as they typically lack a widespread network of corporate offices and
- c) direct with principals typically using the telephone or mail when the internet is not involved (Grant 2004 a).

Online reservation options tend to be a choice between booking direct with the principal or provider of the service, requiring multiple bookings for each of the components that goes to make up the tourism experience or booking with one of a range of Buhalis and Licata's (2002) new tourism e-mediaries which may part of the operations of offline retailers or wholesalers or one of many other types of facilitation service online. The proliferation of online intermediary types is clearly an issue for the

proposed research which will most likely have to adopt a basic choice between direct interaction with principals online and a general service online intermediary. The additional complexities added by reverse auctions like priceline.com, distressed inventory disposals like lastminute.com or a range of other portal type operation is beyond the scope of what is proposed here. Buhalis and Licata (2002) give a good insight to the complexity of online distribution but their research data collection is limited to industry sources and is therefore of little help with the formulation of this research.

5. Review of current research

As can be seen from the previous section there is a very wide range of research methods used to research consumer choice variables and essentially no single option appears to emerge as a solution to the problem.

a. Experimental methods

Experimentation does appear to be a popular option going back to the original work of Murray (1991) defining the information needs of consumers in a variety of buying processes. The experimental design Murray used had the independent variables set as different types of service product and the dependent measures as information source choices and information source effectiveness and confidence arising from use. As such it seems very similar to the study being proposed in this paper despite being limited to the information search phase of the buying process and products and services of relatively low involvement and risk. The methodology used was a completely balanced block, repeated measure design with nested factors in an hierarchical arrangement. The respondents were separated into groups for exposure to different stimuli following which they completed a survey relating to their preferred information sources for a hypothetical purchase scenario. The hypotheses were then tested using MANOVA procedures which confirmed all of the hypotheses proposed.

Adaval (2001) used experiments to demonstrate the effects of information stimuli, based on contextual differences, in real time for consumers engaged in a decision making task. Their work is relevant to the proposed research as the contextual settings that they investigated can easily be likened to the qualitative values that people may attach to

different information sources in their decision making. Their four separate experiments however had very different purposes and cannot therefore be directly be adopted for the proposed research. It is however important in reinforcing the need for standardisation of stimuli and respondent selection that respondents are exposed to eliminate such context effects which are largely subconscious in the respondents.

The work of Lee and Lee (2004) is also of great interest using Anova to evaluate the differences in reactions of customers to various scenarios that they were presented with in eight different simulations of purchase with varying numbers of options and attributes provided. While their research was on information overload it seems to demonstrate the understanding which can be generated by using experiments with associated data collection to gauge subjective reactions of consumers.

In summary the use of structured experiments to test hypotheses using ANOVA or MANOVA seems to be a very effective way of gaining an understanding of differing customer responses to various scenarios. The difficulty with the proposed research appears to arise in the area of dealing with multiple interactions with different needs over what would be an extended period of time and the feasibility of developing appropriate scenarios to test consumer reactions. The longitudinal research by Venkatesh and Davis (2000) seems very attractive but seems problematic in a consumer setting as opposed to the enterprise setting where people were dealing with work related issues.

b. Survey methods

An interesting application of survey work is that done by Fodness and Murray (1998) in sourcing respondents at a destination and asking about their information search habits. This is attractive in that it has the potential to reveal the actual behaviour of respondents who will have gone through the process that is being researched. The difficulty arises with the lapse of time between the actual consumer behaviour and the data collection process and may be compounded by respondents emphasising the positive or useful elements of their decision process. Other complicating factors could include the difficulty of standardising a massive array of options to arrive at a central understanding in a quantitative way, indeed the only way that such a methodology could work for a study of this nature is to do it qualitatively although it would be better to get more than insights and achieve some level of generalisability from the data. They used multidimensional

scaling to determine the dimensionality of their model followed by cluster analysis to group consumers into various groups.

The other interesting survey approach was that of Ratchford, Lee and Talukdar (2003) although difficulties here include the problem of firstly finding a comparable data set that covers multiple stages in a consumer's decision making process. This problem is compounded by the difficulty of comparing behaviour separated by 10 to 15 years given the change in travel behaviour in the intervening period with substantially greater participation in international recreational travel potentially changing the attitudes and therefore behaviour of respondents to the product. The other difficulty with an historical self report may be the bias that responses have based on the respondent's recall of the experience they had with each of the sources.

Although not related to the subject matter at hand the conditional logit analysis used by Seddighi and Theocharous (2002) points to an interesting research methodology, characterised by Train (2003 p22) as the most widely used discrete choice model. Their research, like that of Fodness and Murray (1998) sampled tourists at their destination and is subject to the same limitations mentioned earlier. The real point of interest here however is their analysis method. The limitation of this method is a requirement for unobserved factors to be uncorrelated, including over time which seems to present a problem with the proposed research given the need for different iterations over time. While this condition can be dealt with by using a generalised extreme value model (Train 2003 p80), there remains a problem with the likelihood that people will use more than one form of media in the information sourcing as well as in the decision processes. This problem is compounded by the potential for respondents to choose more than one form of information source, making their choices non-discrete. Indeed Grant's (2005 a) review points to the likelihood of information sources being complementary rather than competitive.

Natarajan's work (1993) is interesting in its comparison of conjoint analysis with an application of Ajzen's (1985) Theory of Reasoned Action in terms of predictive power for likely purchase. While he found that conjoint analysis has a higher predictive power it is important to bear in mind the limitations on conjoint analysis outlined by McCullough (2002) which apply to both practitioners and academics. It is interesting to note

Natarajan's characterisation of conjoint as being very popular with practitioners, with no comment on the need to draw inferences about consumer actions which is required for academic rigour.

The survey methods employed seem to have generated problems typically in the area of sampling, which can be dealt with relatively easily in the design of the proposed research. The far harder problem to deal with is that of standardisation of the stimuli which is necessary for comparability of the reactions of respondents. The meaning that people attach to different sources of information will vary their response and valuation of the information and must therefore be standardised. It therefore seems to suit an experimental methodology where the variables can be controlled and standardised as part of the experimental conditions offered to respondents. This focuses particular interest on the survey methodologies of multinomial logit used by Seddighi and Theocharous (2002) although the discrete nature of decision making may be a problem with this.

6. Alternative research processes for consideration

The challenge presented in defining an appropriate methodology for this research appears to require use of and trade offs between a number of different methodologies. In particular we may need to go beyond the marketing discipline to find methodologies that we can apply to this problem.

a. Dealing with multiple simulations and standardisation

While one option is to use longitudinal research, this may be difficult to standardise experimental conditions and retain a panel over time to gain insights into differences in patterns of progress through the various stages. Note the earlier comments on the research of Venkatesh and Davis (2000) and its contextual setting. An alternative method may be to use information acceleration as proposed by Urban et al (1997) which has the potential to provide a far higher number of standardised scenarios to a consumer using higher quality multimedia effects to improve consumer understanding of the options. While the application of this is primarily targeted at market testing for introduction of new products, the methodology allows for variances of communication effects to be tested. The requirement for this research would be to move the primary focus to the effects of communications and the relative preferences of consumers for different information

sources at the end of the process. While the process dealing outlined by Urban et al (1997) was very costly and suited to avoiding large scale commercial risks and therefore hard to fund in an academic context, the work of Rungie et al (2004) suggests that it can be done on a far simpler basis as part of a nested discrete choice experiment. This then provides us with the potential for a single interaction of standardised scenarios to capture consumer activities, using information technology through computer mediated interaction, and the potential to gather subjective evaluations to capture the attitudinal variables that are a part of the Theory of Planned Behaviour.

The problem which remains to be solved is how to deal with the non-discrete choices that people make in information sources and decision making.

b. Dealing with non-discrete choice modelling

As mentioned earlier in this paper, consumers have multiple options, with no mutual exclusivity, available to them in the information sourcing and decision making stages of the buying process. We therefore need to find a way to deal with this data as it is specifically proscribed by the Nested Multinomial Logit that Train (2003 p22) characterises as the single most popular method for choice experiment analysis.

A methodology has been identified and developed by Bhat (2005) which assumes a diminishing marginal utility as the level of any particular alternative approaches satiation in contrast to the standard multinomial logit function that has strict single discreteness. Bhat demonstrates the use of this in an application of the method to recreational time over a weekend where multiple choice possibilities are available and shows how it is of value to multiple demand management applications in his discipline area of transport.

c. Key measures

The research will investigate the main effects at each stage of the buying process but will also look for primary interactions between non discrete choices in the first two phases of the process and to identify the relative complementarities of the different information sources and methods of interaction. The final phase requires discrete choices and may therefore be analysed for each of the two product types using the more simple nested multinomial logit suggested by Train (2003 p 81).

7. Recommendation for research methodology

This section of the paper follows on from section 3 when the key issues relating to the research were discussed and it may be useful to refer back to the issues raised in that section in the course of reading this section of the paper.

The importance of qualitative research is important in getting an understanding of the values and attitudes that people have toward various products and services (Malhotra et al, 2002, p 127) and an important phase of the research will be building this understanding. This will enable standardisation of simulations that best fits with the expectations and understandings of respondents to minimise error in the statistics arising from confusion.

The precise specifications of the research design are beyond the scope of this paper, however in broad terms it will be necessary to structure the simulations into 3 distinct phases to allow for the distinctly different variables at each stage of the process being researched. Given the large number of variables it may be necessary to use Greek or Latin squares to accommodate the number of variables of interest within an experimental design of reasonable size.

a. Independent variables across all phases

Personal characteristics will be kept as a consistent independent variable for all three stages of the buying process. These will be derived from a survey instrument that measures the following personal characteristics in respondents:

- a. Attitude to technology
- b. Level of comfort with technology
- c. Recency and frequency of recreational travel experiences
- d. Relative need for cognitive closure
- e. Relative sense of risk attached to transformational and informational

A further two personal characteristic variables will be gathered for analysis in the data on information gathering:

- a. Capability in use of online search function

- b. Level of preference for self sufficiency relative to reliance on others for information search and/or effecting transactions

The variables for measurement in the various phases of the buying process will be specific to each of those phases and will be as follows:

b. Information gathering phase

The simulation for the information gathering phase will need to provide for 3 information source types under each of the online and offline information source options. The simulations will reflect a single option that is transformational in character and another that is informational in character. Respondents will be briefed on the task that is required for this stage of the experiment, encouraging limitation to searching for information that they feel may be useful in making a decision between available choices. They will then be free to browse the 6 different source options for each of the two service types using a computer interface with a server log to monitor their choices and relative times devoted to each. Following this they will be asked to fill out a survey instrument seeking their subjective evaluations of each of the information search options for both dependent and independent variables. The dependent variables below will in part be based on an observation of behaviour as demonstrated by the use of server logs and in part by the reports provided in the survey instrument that will be completed following the search activities. The experiment will be pilot tested to allow reasonable but not unlimited time for exploration of the options available.

i. Independent variables

The independent variables for the information gathering phase are expected to be as follows:

- a) For transformational services (high experience value and differentiated offerings)
 - i) Searchability of options
 - ii) Perceived control of process and independence of sources
 - iii) Time and convenience value of option discovery and information retrieval
 - iv) Confidence in understanding gained of suitability of options
- b) For informational services (low experience value and standardised offerings)
 - i) Searchability of options

- ii) Perceived control of process
- iii) Time and convenience value of option discovery and information retrieval

ii. Dependent variables

The dependent variables for the information gathering phase are expected to be as follows:

- a) For transformational services (high experience value and differentiated offerings)
 - i) Searchability of options
 - ii) Perceived control of process and independence of sources
 - iii) Time and convenience value of option discovery and information retrieval
 - iv) Confidence in understanding gained of suitability of options
- b) For informational services (low experience value and standardised offerings)
 - i) Searchability of options
 - ii) Perceived control of process
 - iii) Time and convenience value of option discovery and information retrieval

c. Use of information in decision making

The same simulation will be made available to respondents for the decision making or evaluative phase to allow them to reflect on the relative values or utility of each of the information sources for each of the two types of service. Again they will be briefed on the distinctly different task that is required at this stage of the experiment with its focus on the application of the information gathered to establish cognitive preferences. Following this they will be asked to complete a survey instrument seeking their subjective evaluations of each of the information sources for decision making for both dependent and independent variables. As with the previous experimental phase, the dependent variables listed will partly be based on observation of behaviour as demonstrated by server log data and partly by reported reactions of respondents in the survey instrument following the simulated decision making. This phase of the experiment will also be pilot tested to allow reasonable but not unlimited time for deliberations on the options available.

i. Independent variables

The independent variables for the decision making phase are expected to be as follows:

- a) For transformational services (high experience value and differentiated offerings)
 - i) Source credibility
 - ii) Depth of information available
 - iii) Interaction for clarification and development of feeling for relative suitability of options
 - iv) Ability to store, analyse and compare information on options
- b) For informational services (low experience value and standardised offerings)
 - i) Completeness of information on pricing, conditions, availability, schedules
 - ii) Understanding of market dynamics
 - iii) Ability to store, analyse and compare information on options

ii. Dependent variables

The dependent variables for the decision making phase are expected to be as follows:

- a) For transformational services (high experience value and differentiated offerings)
 - i) Preferences for online and offline interaction
 - ii) Rating and ranking of online interaction relative to offline interaction
 - iii) Preference for commercial, independent or peer group sources
- b) For informational services (low experience value and standardised offerings)
 - i) Preferences for online and offline interaction
 - ii) Rating and ranking of online interaction relative to offline interaction
 - iii) Preference for commercial, independent or peer group sources

d. Choice of entity for effecting reservation or service acquisition

Since there are different variables that apply to this step, the simulation will have to change to reflect distinctly different interactions. While the basic choices of online (website) or offline (telephone) still apply these will be offered under 2 primary options, namely interaction with the principal or service provider, and interaction with a single online or offline intermediary. The simulation will require respondents to go through a reservation process and report their subjective evaluations on the option of their choice and their feelings about other non selected options in hindsight.

i. Independent variables

The independent variables for the service acquisition phase are expected to be as follows:

- a) For transformational services (high experience value and differentiated offerings)
 - i) Option availability
 - ii) Special needs and interests addressed
 - iii) Time and place convenience value
 - iv) Security of transaction, accountability and trustworthiness of interaction
- b) For informational services (low experience value and standardised offerings)
 - i) Option availability
 - ii) Special needs and interests addressed
 - iii) Time and place convenience value
 - iv) Security of transaction, accountability and trustworthiness of interaction

ii. Dependent variables

The dependent variables for the service acquisition phase are expected to be as follows:

- a) For transformational services (high experience value and differentiated offerings)
 - i) Preferences for online and offline interaction
 - ii) Rating and ranking of online interaction relative to offline interaction
 - iii) Preference for principal direct or intermediary for transaction
- b) For informational services (low experience value and standardised offerings)
 - i) Preferences for online and offline interaction
 - ii) Rating and ranking of online interaction relative to offline interaction
 - iii) Preference for principal direct or intermediary for transaction

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